

## 数学函数

L<sup>A</sup>T<sub>E</sub>X 中用斜体显示变量名, 用正体显示函数名. 在 L<sup>A</sup>T<sub>E</sub>X 中通过在函数名前加上倒斜线, 将函数名与变量名区分开. 但这样的函数名需要事先定义, L<sup>A</sup>T<sub>E</sub>X 中已定义了以下函数名 (即以下函数名可以在 L<sup>A</sup>T<sub>E</sub>X 中直接使用):

<code>arccos \arccos</code>	<code>coth \coth</code>	<code>hom \hom</code>	<code>ln \ln</code>	<code>sinh \sinh</code>
<code>arcsin \arcsin</code>	<code>csc \csc</code>	<code>inf \inf</code>	<code>log \log</code>	<code>sup \sup</code>
<code>arctan \arctan</code>	<code>deg \deg</code>	<code>ker \ker</code>	<code>max \max</code>	<code>tan \tan</code>
<code>arg \arg</code>	<code>det \det</code>	<code>lg \lg</code>	<code>min \min</code>	<code>tanh \tanh</code>
<code>cos \cos</code>	<code>dim \dim</code>	<code>lim \lim</code>	<code>Pr \Pr</code>	<code>mod \bmod</code>
<code>cosh \cosh</code>	<code>exp \exp</code>	<code>\liminf \liminf</code>	<code>sec \sec</code>	<code>(mod) \pmod</code>
<code>cot \cot</code>	<code>gcd \gcd</code>	<code>\limsup \limsup</code>	<code>sin \sin</code>	

下面是介绍如何使用 `\DeclareMathOperator` 或 `\DeclareMathOperator*` 命令来自定义函数名。

To define additional named operators outside the above list, use the `\DeclareMathOperator` command; for example, after

```
\DeclareMathOperator{\rank}{rank}
\DeclareMathOperator{\esssup}{ess\,sup}
```

in preamble, one could write

$$\begin{aligned}\backslash\mathrm{rank}(x) &\longrightarrow \mathrm{rank}(x) \\ \backslash\mathrm{esssup}(y,z) &\longrightarrow \mathrm{ess\,sup}(y,z)\end{aligned}$$

The star form `\DeclareMathOperator*` creates an operator that takes limits in a displayed formula like `sup` or `max`.

When predefining such a named operator is problematic (e.g., when using one in the title or abstract of an article), there is an alternative form that can be used directly:

$$\backslash\operatorname{rank}(x) \longrightarrow \mathrm{rank}(x)$$